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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,090	07/22/2004	Ingvar Andersson	027651-246	4014
21839 7590 07/31/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER JACOBSON, MICHELE LYNN	
			ART UNIT 1709	PAPER NUMBER
			MAIL DATE 07/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/502,090	ANDERSSON, INGVAR	
	Examiner	Art Unit	
	Michele Jacobson	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/22/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities: It is an improperly formatted Markush claim. Claim 11 recites "selected from the group essentially comprising" which needs to be changed to "selected from a group consisting of" in order to be a proper Markush group. See MPEP 803.02. Appropriate correction is required.
2. Claims 1,5, and 8 are objected to because of the following informalities: Improper form of claim. See MPEP 608.01(m) rule 37 CFR 1.75(i) where it states "Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation". Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 2,3,6 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent

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protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

4. In the present instance, claim 2 recites the broad recitation "compressed by at most 70% ... but at least 20%", and the claim also recites "at most 60% ...preferably at least 30%" which is the narrower statement of the range/limitation.

5. Additionally, in the present instance, claim 3 recites the broad recitation "considerably wider than the perforation line preferably at least 1.5 times, as wide...but at most ten times as wide, ", and the claim also recites "even more preferably at least twice as wide... preferably at most five times as wide" which is the narrower statement of the range/limitation.

6. Additionally, in the present instance, claim 6 recites the broad recitation "compression portion being preferably 1-3 mm", and the claim also recites "and even more preferably 1.5-2.5 mm wide" which is the narrower statement of the range/limitation. Claim 6 also recites the broad recitation "preferably 0.2-2 mm", and the

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claim also recites "even more preferably 0.2-1 mm" which is the narrower statement of the range/limitation.

7. Additionally, in the present instance, claim 9 recites the broad recitation "the core layer preferably being compressed in said compression line by at most 70%... but at least 20%... in relation to its thickness surrounding the compression line", and the claim also recites "the core layer preferably being compressed in said compression line... preferably at most 60%... but... preferably at least 30%... in relation to its thickness surrounding the compression line" which is the narrower statement of the range/limitation.

8. Additionally, in the present instance, claim 10 recites the broad recitation "considerably wider than the perforation line preferably at least 1.5 times, as wide...but at most ten times as wide, ", and the claim also recites "even more preferably at least twice as wide... preferably at most five times as wide" which is the narrower statement of the range/limitation.

9. Additionally, in the present instance, claim 11 recites the broad recitation "said thermoplastic coating layer displays a surface weight or grammage of 20-50 g/m²", and the claim also recites "preferably 20-40 g/m²" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

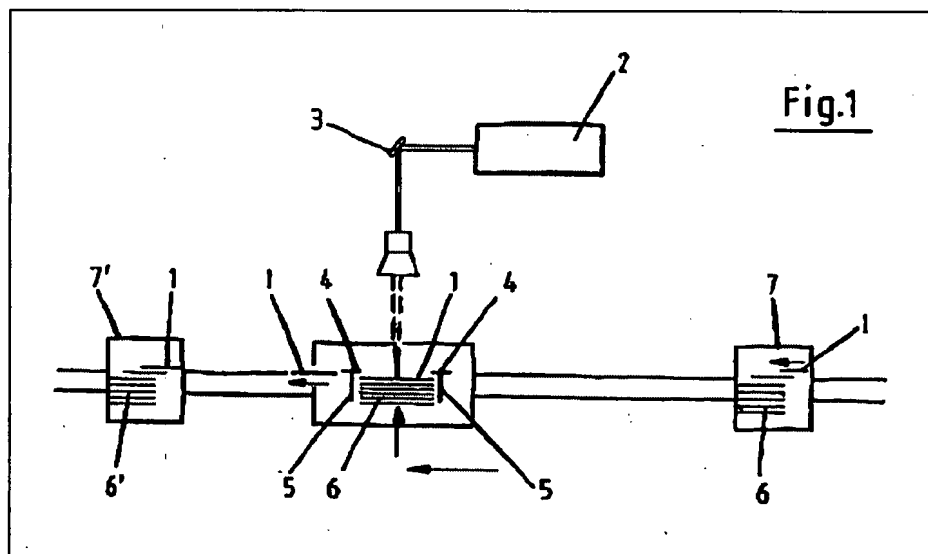
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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiteder et al. U.S. Patent No. 6,007,756 in view of Masui U.S. Patent No.

4,834,244.

3. Weiteder et al. disclose "A process and device for perforating and/or semi-cuts in printed multilayer composite material by means of laser



beams from at least one laser arranged in a laser station." (See Fig 1, and col 1, lines 6-

9). Said multilayer composite materials including paperboard laminated with polyethylene (col 1, lines 12-14). Weiteder et al. also disclose means for laterally feeding the paperboard to a cut station.

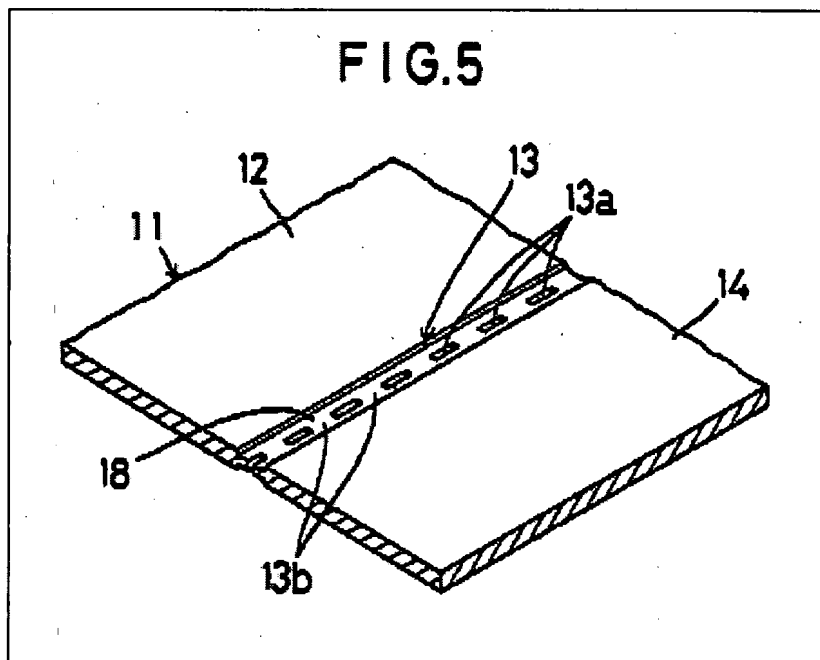
4. Regarding claims 4 and 7: Weiteder teaches a means for laterally feeding the paperboard to a cut station. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to provide a station for handling the packaging laminate and to use rollers for the means of transporting the laminate as recited in claims 4 and 7.

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5. Regarding claim 11: Weiteder teaches using polyethylene or polypropylene as the thermoplastic material to produce a paperboard laminate as recited in claim 11. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to vary the surface weight or grammage of the thermoplastic material as recited in claim 11 in order to optimize the product based on the end use of the film. A thicker layer would provide more protection of the paperboard while a thinner layer may be preferable for lighter weight packaging. Furthermore, there appears to be no criticality to the ranges of surface weight or grammage of the thermoplastic material as recited in claim 11.

6. Weiteder et al. do not recite compressing the region of the laminated material to be perforated prior to laser perforation.

7. Masui discloses "a boxboard-made case for use in packaging facial tissues or the like". (col. 1, lines 6-8) Masui furthermore discloses "On the top wall 12 of the case 11 there is embossed a ruled line 18 extending along the line of perforations



13 in overlapping relation therewith" (See Fig. 5 and col. 2, lines 41-43)

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8. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to have compressed the paperboard laminate prior to perforating it with laser exposure.

9. The suggestion/motivation would have been to weaken the non-perforated portions of the paperboard core layer of the packaging laminate. Masui recites this motivation: "the ruled line 18 provided along the line of perforations 13 in overlapping relation therewith serves to break the body of the boxboard at non-cutout portions and concurrently to break the fiber structure of the boxboard through application of a force of compression, so that the strength of the non-cutout portions 13a is considerably lowered. Thus, when the perforations 13 are cut off, the ruled line 18 serves to guide the force of tearing from one cutout 13a to a next adjacent cutout 13a." (Masui, Fig. 5, col. 2, line 61- col 3, line 2).

10. Regarding claims 2 and 9: The examiner notes that although the motivation to combine Weiteder with Masui is different from the applicant's stated motivation of "solving the problem of the build up of ridges of residual material" (col 2, line 19); the attribute claimed naturally flows from the references cited. The compression line taught by Masui combined with the laser perforation taught by Weiteder would provide a laminate as recited in claims 2 and 9 where the "build-up of thermoplastic residual material around the perforation line after the laser burning ... [is] substantially located entirely below the level of the surrounding surface of the packaging laminate".

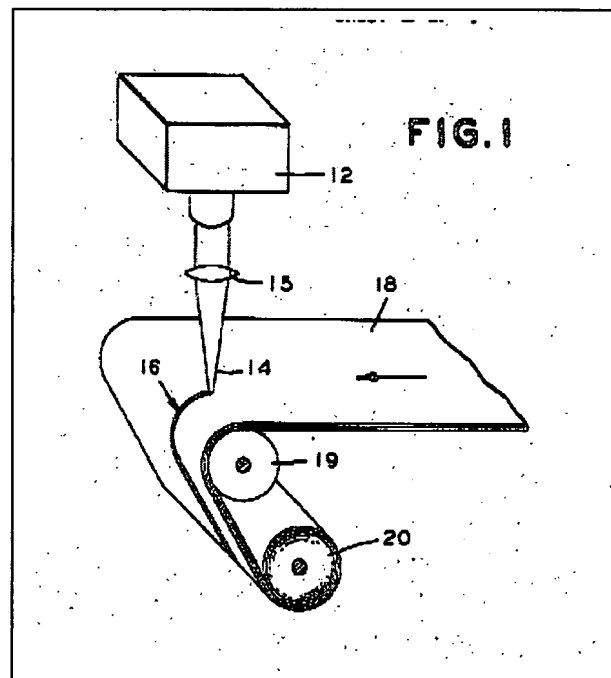
11. Regarding claim 5: In view of Weiteder and Masui, it would have been obvious to one having ordinary skill in the packaging art at the time the invention was made to

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arrange a plant for the manufacture of the claimed packaging laminate having stations to perform the steps necessary for production of the laminate in logical succession as recited in claim 5.

12. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen U.S. Patent No. 3,909,582 in view of Masui U.S. Patent No. 4,834,244.

13. Bowen discloses "a method of forming a line of weakness in multilayer laminates. More particularly, the invention is directed to the use of laser radiant energy to form an easy open tear line in multilayer laminates, especially those made with polymeric materials." (See Fig 1 and col 1, lines 5-9). Bowen further discloses that the composition of the laminates may include paper layered with



either polypropylene or polyethylene (col 9, lines 57-60). They further disclose a means for handling the packaging laminate after laser exposure (Fig. 1) where the "multilayer laminate 18 [is] passed over a backing roll 19 and ... fed onto a wind up roll 20." (see Fig 1 and col. 4, lines 57-59).

14. Regarding claims 4 and 7: It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to provide a station for

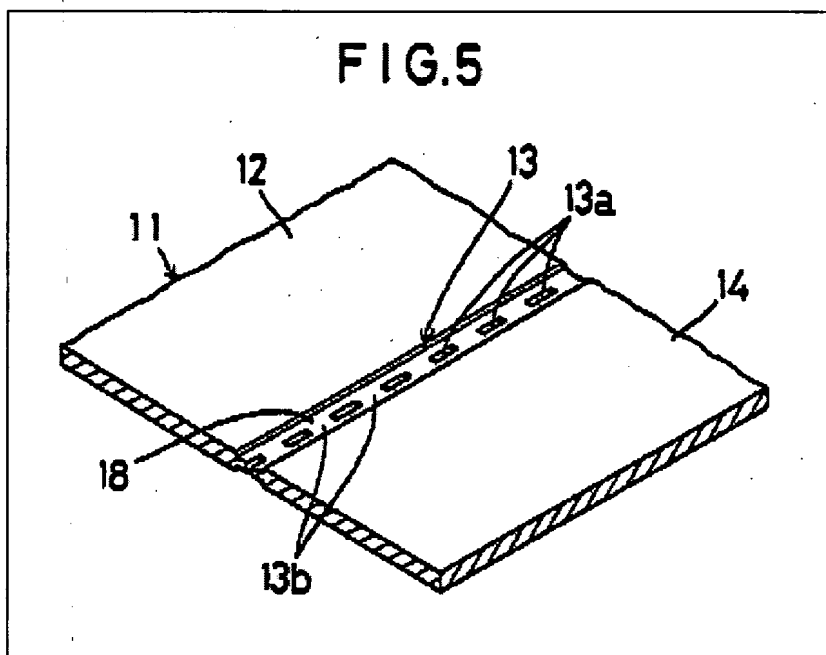
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handling the packaging laminate that uses rollers for the means of transporting the laminate as taught by Bowen and recited in claims 4 and 7.

15. Regarding claim 11: Bowen teaches using polyethylene or polypropylene as the thermoplastic material to produce a paperboard laminate as recited in claim 11. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to vary the surface weight or grammage of the thermoplastic material as recited in claim 11 in order to optimize the product based on the end use of the film. A thicker layer would provide more protection of the paperboard while a thinner layer may be preferable for lighter weight packaging. Furthermore, there appears to be no criticality to the ranges of surface weight or grammage of the thermoplastic material as recited in claim 11.

16. Bowen does not recite compressing the region of the laminated material to be perforated prior to laser perforation.

17. Masui discloses "a boxboard-made case for use in packaging facial tissues or the like". (col. 1, lines 6-8) Masui furthermore discloses "On the top wall 12 of the case 11 there is embossed a ruled line 18 extending



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along the line of perforations 13 in overlapping relation therewith" (See Fig. 5 and col. 2, lines 41-43)

18. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to have compressed the paperboard laminate prior to perforating it with laser exposure.

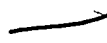
19. The suggestion/motivation would have been to weaken the non-perforated portions of the paperboard core layer of the packaging laminate. Masui recites this motivation: "the ruled line 18 provided along the line of perforations 13 in overlapping relation therewith serves to break the body of the boxboard at non-cutout portions and concurrently to break the fiber structure of the boxboard through application of a force of compression, so that the strength of the non-cutout portions 13a is considerably lowered. Thus, when the perforations 13 are cut off, the ruled line 18 serves to guide the force of tearing from one cutout 13a to a next adjacent cutout 13a." (Masui, Fig. 5, col. 2, line 61- col 3, line 2)

20. Regarding claims 2 and 9: The examiner notes that although the motivation to combine Bowen with Masui is different from the applicant's stated motivation of "solving the problem of the build up of ridges of residual material" (col 2, line 19), the claimed result flows from the references cited. The compression line taught by Masui combined with the laser perforation taught by Bowen would provide a laminate as recited in claims 2 and 9 where the "build-up of thermoplastic residual material around the perforation line after the laser burning ... [is] substantially located entirely below the level of the

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surrounding surface of the packaging laminate". The methodology of the two references combined is the same as applicants' and would result in the same product.

21. Regarding claim 5: In view of Bowen and Masui it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange a plant for the manufacture of the claimed packaging laminate having stations to perform the steps necessary for production of the laminate in logical succession as recited in claim 5.



22. Claims 3, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen U.S. Patent No. 3,909,582 in view of Masui U.S. Patent No. 4,834,244 as applied to claims 1-5 and 7-11 in further view of Mayall U.S. Patent No. 1,126,816.

23. Bowen and Masui do not address the dimensions of the tool used to compress the paperboard laminate. These references are also silent regarding the width of the compression in which the perforation line is formed.

24. Mayall teaches "a machine to automatically by a sequence of operations upon a sheet of card or other board form creasings" (col 1, lines 10-13).

25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the size of the projections on the compression tool used to achieve the desired compression width (claims 3 and 10) and depth (claim 6) as well as to utilize an adjustable gap between the roller used to compress the paperboard and the counter roller as recited in claim 6 as this relates directly to the width and depth of the compressed area (a result effective variable). The examiner notes that the word

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crease as used in Mayall is equivalent to the compression described by applicant.

Additionally, there appears to be no criticality to the ranges of size neither for the projecting compression portion of the roller as recited in claim 6 nor for the ranges of the width of the compression produced as recited in claims 3 and 10.

Conclusion

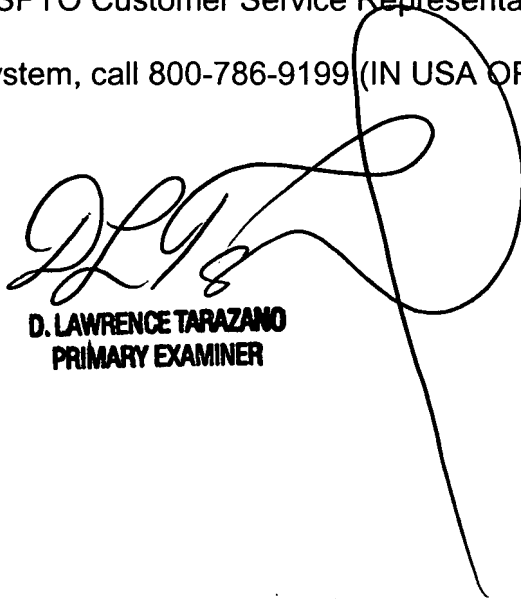
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Puhl U.S. Patent No. 5823935 addresses a tool for cutting cardboard that compresses the cardboard adjacent to the cut. Evans et al. U.S. Patent No. 7011512 B2 provides a means for reducing the ridge formed when thermoplastic material is scored by laser light. Staffeld U.S. Patent No. 4587736 and Prior U.S. Patent No. 1935522 both address means for creasing cardboard and paperboard materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Jacobson whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Friday 7:30 AM-5 PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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D. LAWRENCE TARAZANO
PRIMARY EXAMINER

Michele L. Jacobson
Examiner
Art Unit 1709 